CRYSIS

The Long Journey to Open Worlds

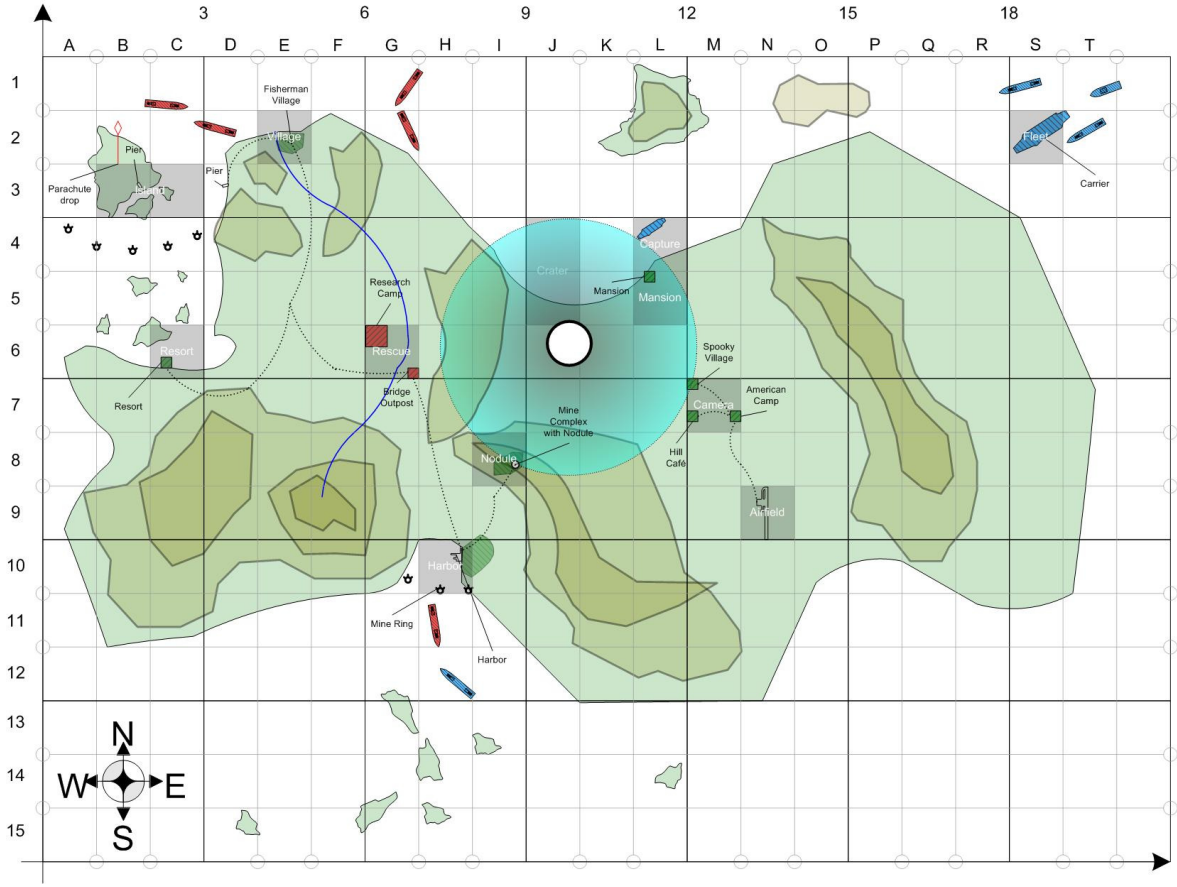
Sten Huebler, Lead Designer - Crytek

Structure

- The initial level design concept and the changes
- The visual approach
- How we kept the overview of Sandbox levels
- Level design iterations
- How we reached the end of the tunnel

The concept and its change

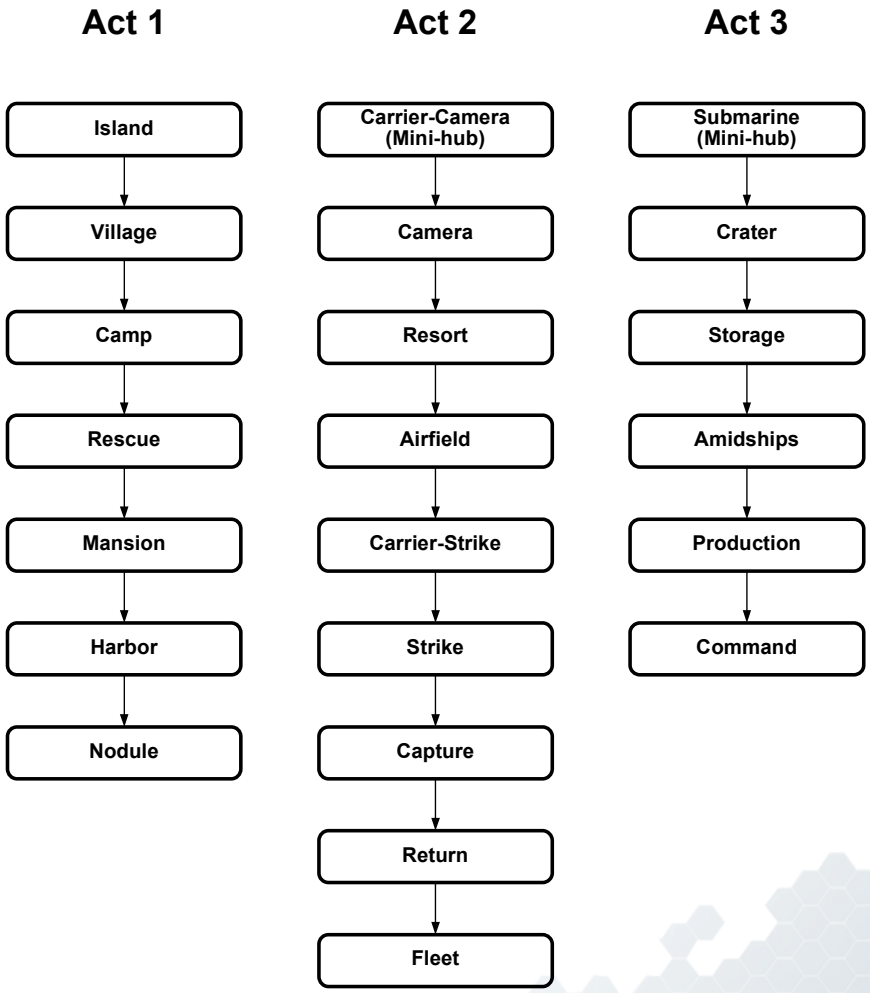
One Island



- One Sandbox Island
- No level loads
- Streaming sectors

CRYSIS

Three acts


Act 1
Island
Village
Camp
Rescue
Mansion
Harbor
Nodule
Act 2
Carrier-Camera (Mini-hub)
Camera
Resort
Airfield
Carrier-Strike
Strike
Capture
Return
Fleet
Act 3
Submarine (Mini-hub)
Crater
Storage
Amidships
Production
Command

Interactive objectives

START

PHASE ONE
PREPARATIONS

CORE MISSION - 1
Get to the main island
The Player needs to get to the predefined landing spot at the main island.

15 min

EQUIPMENT: Knife, Pistol, SCAR, Silencer attachment, Kuang, Lu Tang

Vehicles: Catamaran, RIB

SQUAD: None

NPC: Barnes, Sykes, Hawker, Chang, Michaels, Ramirez, Xbox agent

Mood: Pressured

Insertion:

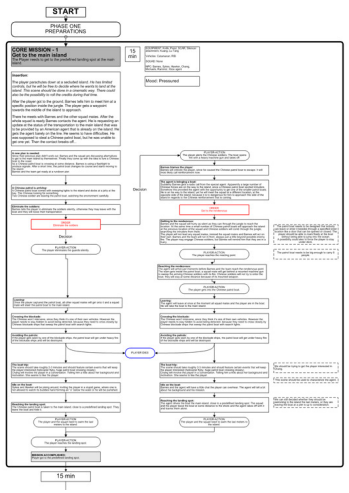
The player parachutes down at a secluded island. *He has limited controls, but he will be free to decide where he wants to land at the island. This scene should be done in a cinematic way. There could also be the possibility to roll the credits during that time.*

After the player got to the ground, Barnes tells him to meet him at a specific position inside the jungle. The player gets a waypoint towards the middle of the island to approach.

There he meets with Barnes and the other squad mates. After the whole squad is ready Barnes contacts the agent. He is requesting an update at the status of the transportation to the main island that was to be provided by an American agent that is already on the island. He gets the agent barely on the line. He seems to have difficulties. He was supposed to steal a Chinese patrol boat, but he was unable to get one yet. Than the contact breaks off...

A new plan is needed:
Since their previous plan didn't work out, Barnes and the squad are discussing alternatives to get to the main island by themselves. Finally they come up with the idea to lure a Chinese boat to the coast.
As a Chinese patrol boat is crossing at some distance, Barnes is using a flashlight to

PLAYER-A
The player alerts the Chinese
fire with a heavy machir



In the past China helped the government of the island, and an official arrangement of the two nations was forged. They considered themselves as allies.

As the impact of the alien ship happened a part of the Chinese fleet executed a training maneuver not far from there. The fleet was immediately ordered to investigate the incident. After reaching the island the UN ordered the Chinese fleet to leave the area. The fleet is ordered to evacuate the local population, and to occupy the island and establish a blockade, to prevent non-Chinese ships to reach the island.

The UN is protesting and sets an ultimatum to China to retreat with their troops. The UN postulates an international investigation with an international team of scientist under the protection of US troops.

China denies and claims that they are allies of the local population and therefore they treat the crash of the alien object as an attack at their allies and against China. Hence it is their legal right to decide measures against the alien attack.

America is not accepting this claim and decides to establish an embargo and blockade as well, preventing that Chinese ships can reach or leave the island.

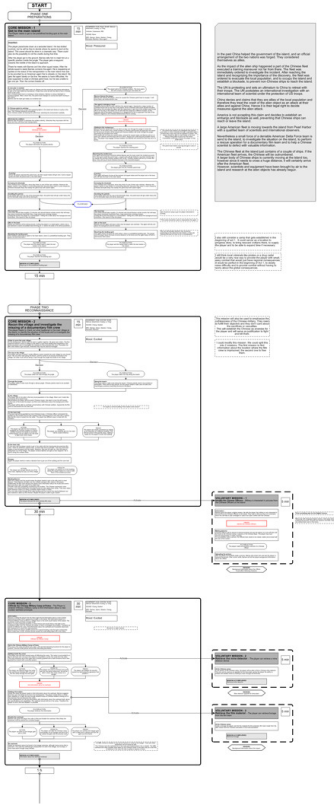
A large American fleet is moving towards the island from Pearl Harbor with a qualified team of scientists and international observers.

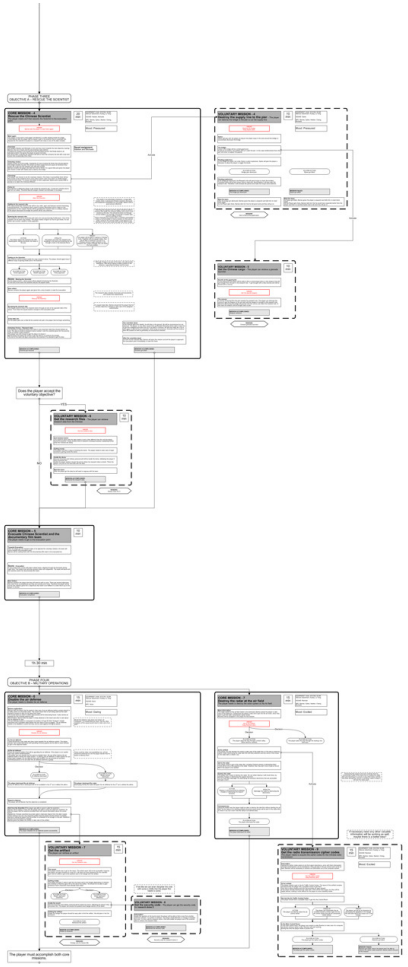
Nevertheless a small force of a deniable American Delta Force team is send to the island, to investigate the situation on the island, to perform a rescue operation for a documentary film team and to help a Chinese scientist to defect with valuable information.

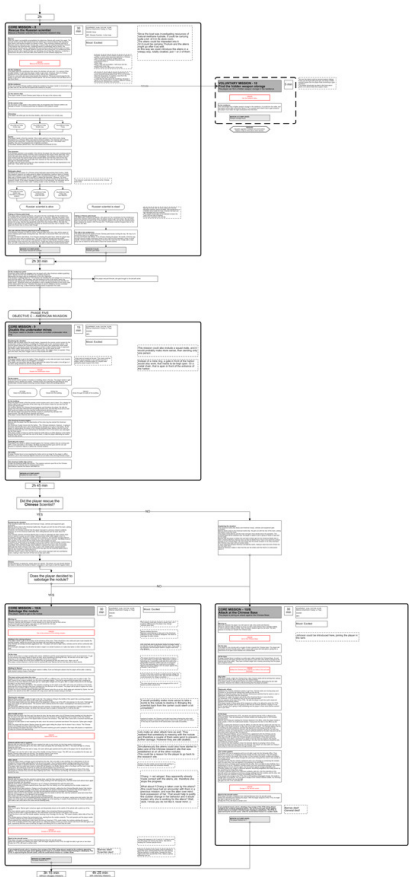
The Chinese fleet at the island just contains of a couple of ships. If the American fleet arrives, the Chinese will be outnumbered.
The UN is trying to get the player interested in the island too, however since it needs to cross a huge distance, it will certainly arrive after the American fleet.
However, scientists and equipment have been brought by air to the island and research at the alien objects has already begun.

I also still consider a camp that gets established in the jungle. Maybe, if the player is not interested in the dangerous intro, to bring reluctant civilians there, to supply the player and to be able to expand time if necessary.

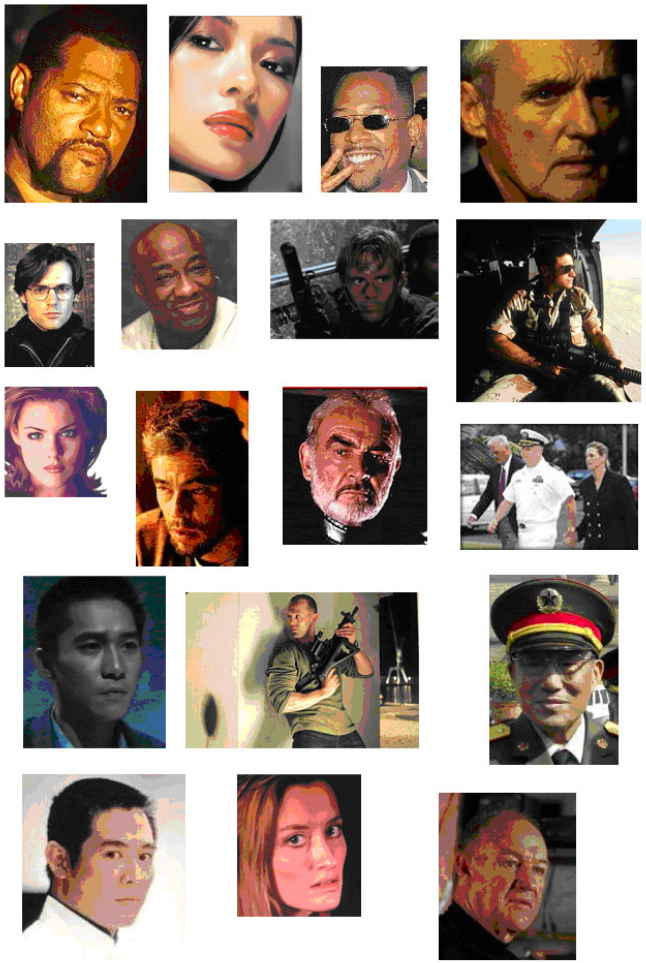
I still think local criminals like pirates or a drug cartel would be a very nice way to provide the player with small, easy combat that would just have regional consequences. Also, it would be a good way to ramp up the game in difficulty and to provide combat without having to worry about the global consequences.







… and a branching story



- Captain Laurence Barnes
- Sgt. Michael Sykes
- Martin Hawker
- Elliot Johnson
- Frank Ramirez
- Joseph Beck
- Ryan Miller
- Dr. Charles Baxter
- Dr. Albert Lesko
- John “Shark” Harper
- Samo Chia
- Anna Kirovski
- Jennifer Michaels
- Lt. Caroline Chang
- Admiral Richard Morrison
- Commander Robert Powell
- Dr. Chen Hau
- General Kyong

Character timeline

5/4/2020 - 5/24/2020
Player

5/4/2020 - 5/24/2020
Barnes

5/12/2020 - 5/15/2020
Chang

5/4/2020 - 5/24/2020
Sykes

5/4/2020 - 5/24/2020
Hawker

5/4/2020 - 5/24/2020
Johnson

5/4/2020 - 5/24/2020
Michaels

5/7/2020 - 5/24/2020
Ramirez

5/9/2020 - 5/24/2020
Kirovski

5/10/2020 - 5/24/2020
Miller

5/12/2020 - 5/24/2020
Baxter

5/15/2020 - 5/24/2020
Lesko

5/17/2020 - 5/24/2020
Harper

5/6/2020 - 5/16/2020
Feng

5/8/2020 - 5/24/2020
Hau

5/5/2020 - 5/10/2020
Lei

5/15/2020 - 5/24/2020
Alien Leader

5/23/2020 - 5/24/2020
God Alien

5/12/2020 - 5/15/2020
Morrison

5/12/2020 - 5/15/2020
Davis

5/4/2020
Alien Ship Crashes

5/10/2020
Sphere Opens

5/17/2020
Carrier Destruction

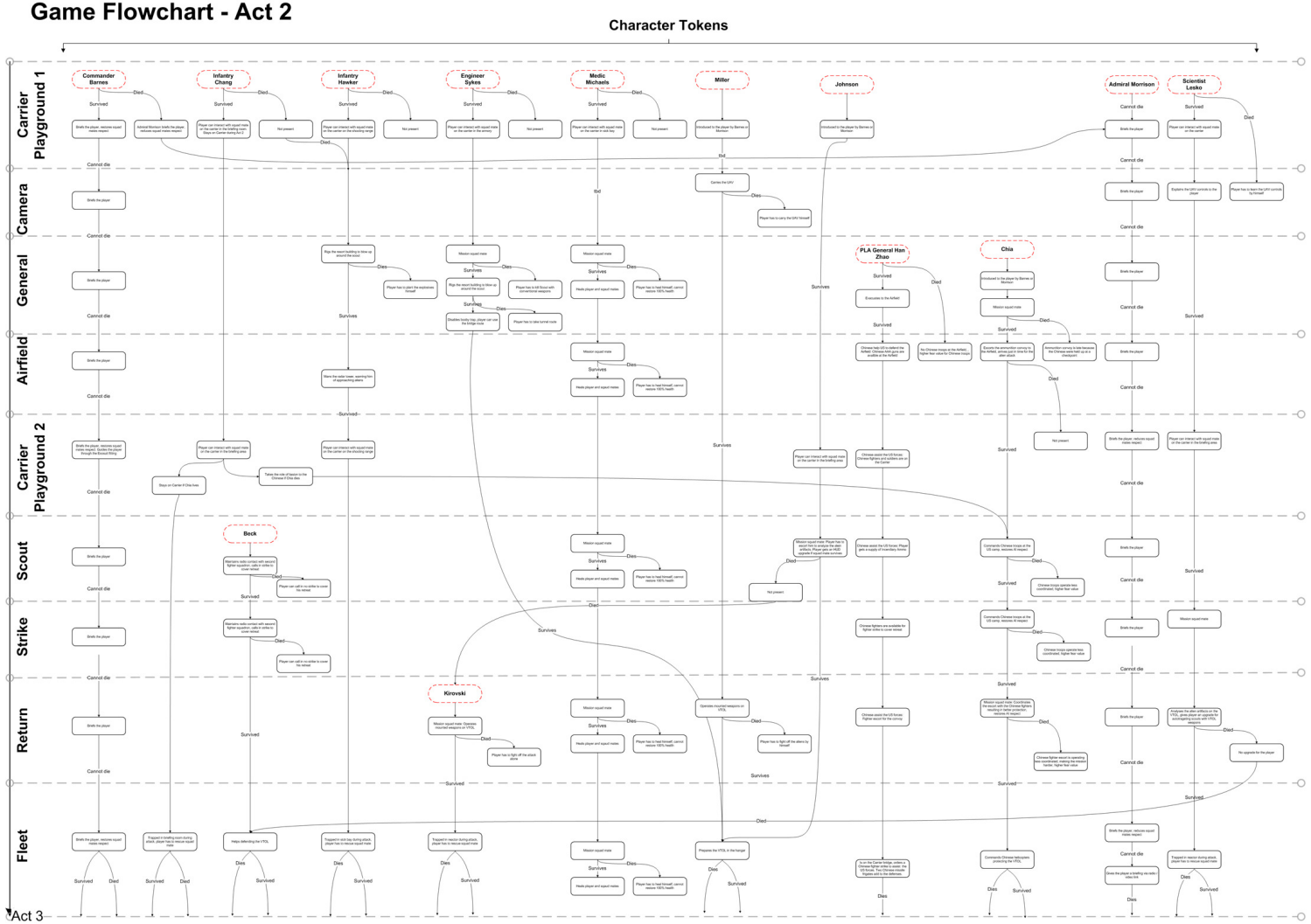
5/24/2020
Alien Ship Destruction

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

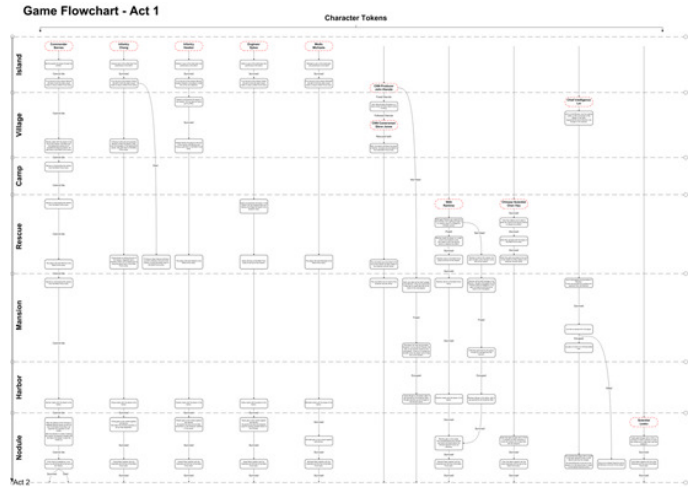
5/4/2020 5/10/2020 5/17/2020 5/24/2020

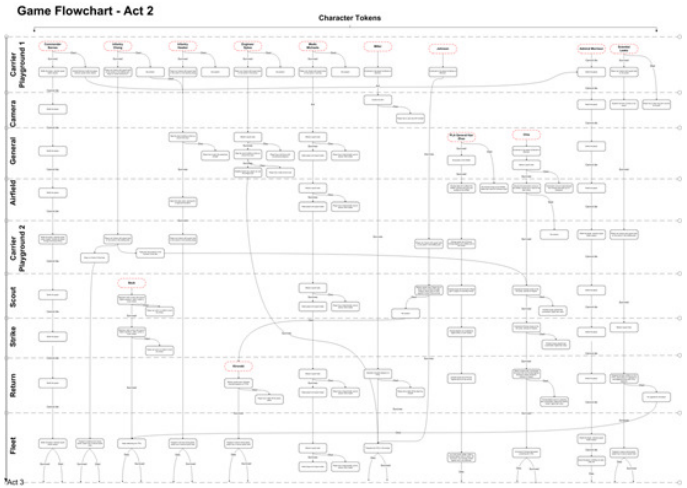
The branching story Hydra

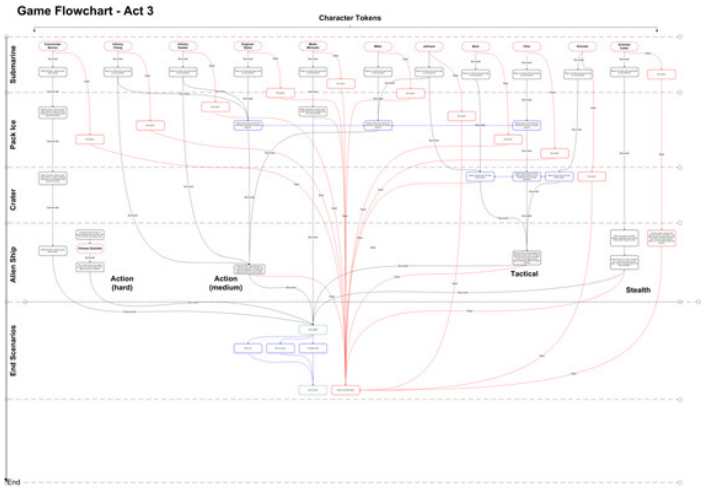
Game Flowchart - Act 2



The branching story Hydra



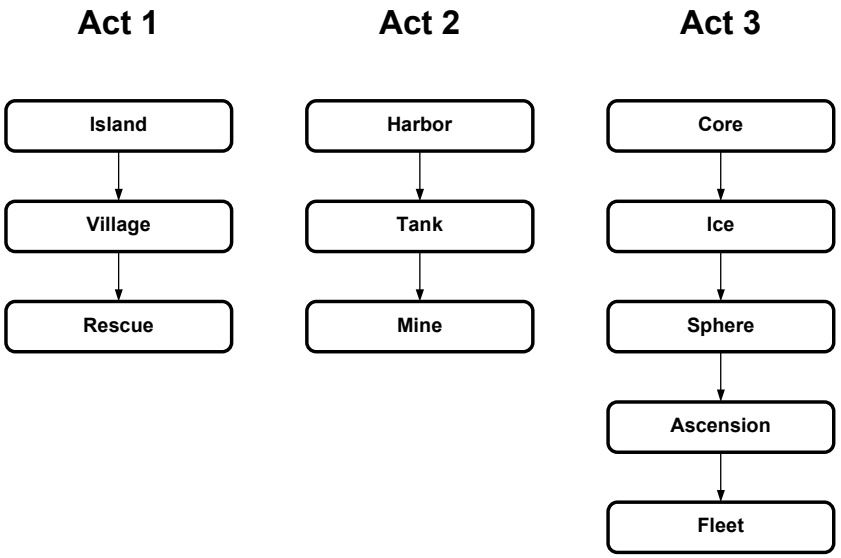




The problems

- Too complex in its design
- Too tedious to work out
- Took focus away from working on actual content
- Sounded good in theory, but was it fun in practice?

The solution - reduce the complexity



- Reduce amount of levels
- No streaming Sandbox island
  - … but separate Sandbox levels

The solution - reduce the complexity

- Reducing the scope was necessary
  - … but caused story issues requiring a full rewrite
- Separating the levels with no interaction between objectives
  - … made it unavoidable to rework most of the levels, since they were designed for one open island

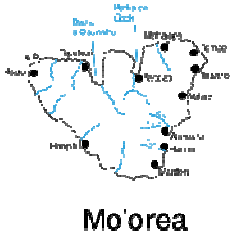
Reduced Complexity

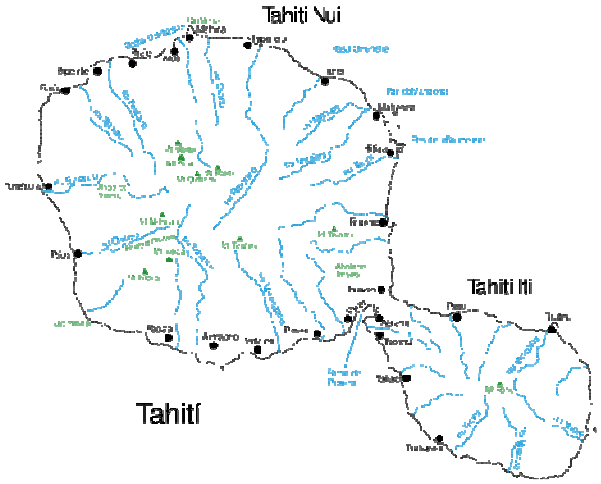
- Cut down and rework cast of characters from 18 to 10
  - … allowed for more screen time and focus
- No branching story
  - … allowed us to develop the characters more deeply

The visual approach

Field Trip - Tahiti

- Find out what it looks like!





Field Trip - Tahiti

Terrain and textures

The problems of inventing the camera while shooting a movie

- Instability and broken modules
  - … hindered progress on gameplay and AI development (Animation system)
- Lack of reliable information about final engine capabilities meant
  - … difficulty defining the scope of the game
  - … few guidelines for level design in terms of engine performance and feature set

CamPos=2791 1617 203 Angl= -7 0 -167
Camera Near=0.25, Far=500
Ver=1.1.1.826 Lev=rescue
Polygons 120,731
P/Sec 003,842,598
FPS 31 (24.. 38) / 33.2
DynLights=Sun[SM](1/1)
THIS IS HOW OUR TERRAIN LOOKS LIKE

The famous presentation about the terrain…

Nature is not random!

Analyze it and understand its rules

… to prevent accidents

Art notes

DynLights=Sun[SM](1/1)

CamPos=1134 1850 113 Angl= .2 0 -132
Camera Near=0.25, Far=400
Ver=1.1.1.611 Lev=village
Polygons 352,777
P/Sec 012,374,948
FPS 35 (33, 43) / 43.4
DynLights=Sun[SM](1/1)

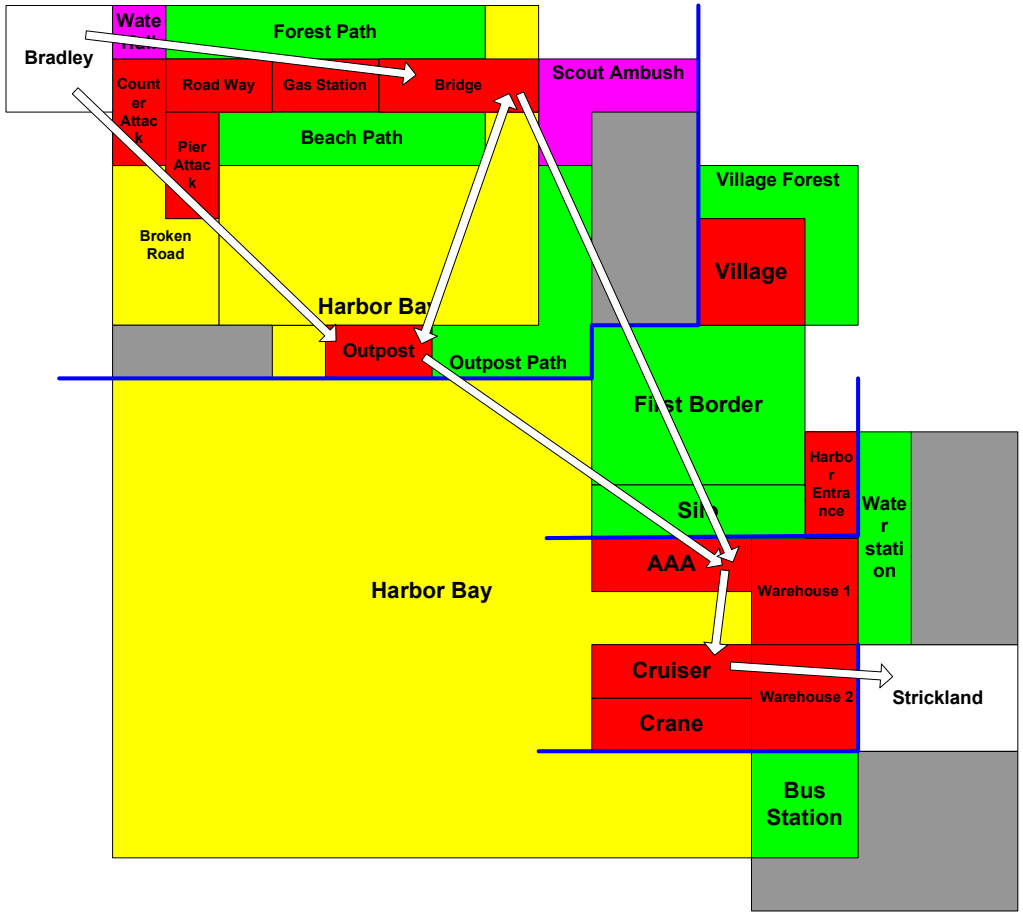
ART NOTE – ROAD + TERRAIN

How to keep the overview?

Abstract understanding

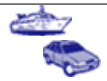
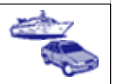
- It’s a game of freedom
  - Players game vs. designers game
- But how to prevent player to get lost?
  - Objectives help the player find their way

Abstract understanding



- Gameplay obstacles for pacing, balance, entertainment and challenge
- Prevent boredom
- Gameplay focus
  - Provide variety
  - Stir up their play style once in a while

Crysis - Overview

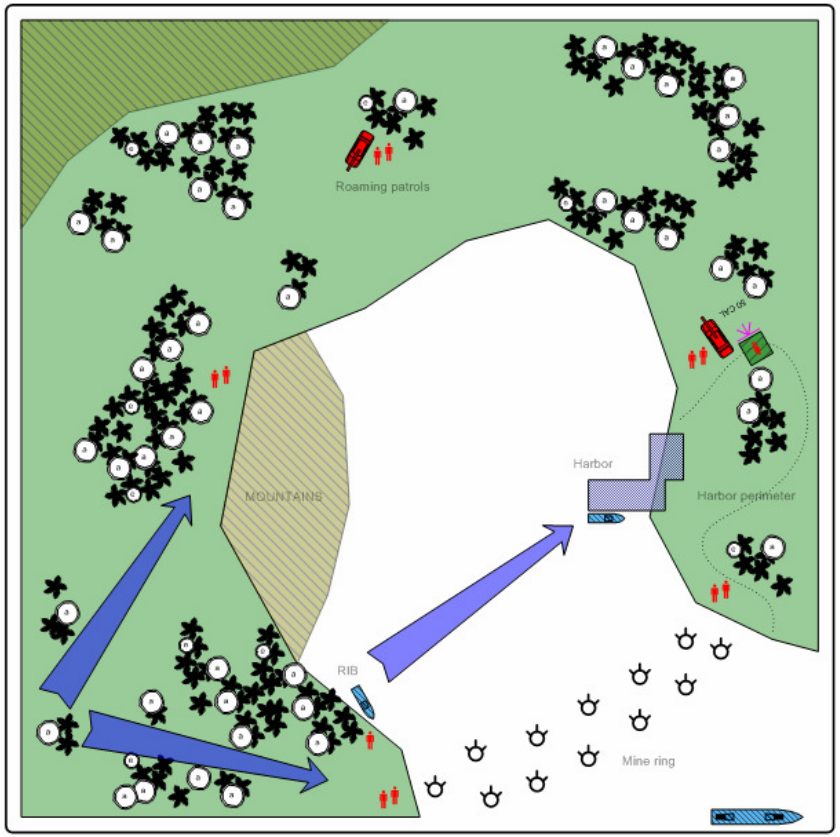
	1 Island	2 Village	3 Rescue	4 Harbor	5 Tank	6 Mine	7 Core	8 Ice	9 Sphere	10 Ascension	11 Fleet
Average estimated Playtime	30-45	30-45	30-45	30-45	30-45	30-45	30-45	30-45	30-45	15	30-45
Environment	Beach / Jungle / Jungle	Urban / Jungle	Jungle River	Beach / Urban	Jungle Plains	Jungle / Urban / Quarry / Mine	Alien ship	Frozen jungle	Frozen jungle / Jungle	Jungle	Carrier
Weather	Sunny			Overcast		Cloudy - Clouds around alien ship	Alien	Clouds Snowy	Heavy rain Heavy winds	Heavy rain Heavy winds	Thunder storm
Time of day	Dawn 5 AM / 10 AM Noon	Noon 10 AM / 4 PM Dusk	Dusk 4 PM / 9 PM Night	Night 5 AM / 9 AM Dawn	Dawn 10 AM / Noon 3 PM	Noon 3 PM / Dusk 7 PM	Night	Dawn 11 AM / Noon 3 PM	Noon 3 PM / Dusk 7 PM	Dusk 7 PM / 9 PM Night	Night 11 PM / Dawn 5 AM
Main Experience	Infiltration			Assault			Retreat				Defend
Alien ship	Strange Mountain	Strange Mountain	Strange Mountain	Strange Mountain	Broken Mountain	Broken Mountain		Revealed Alien	Revealed Alien	Revealed Alien	Revealed Alien
Vehicles											

Iterations

Iterations

- Idea/Concept
- Layout
- 1st pass
- 2nd pass
- Alpha
- Final

Idea/Concept



ACT – 1, Mission 9

"Description"

Notes:

1

Layout/1st pass

2nd pass/Alpha

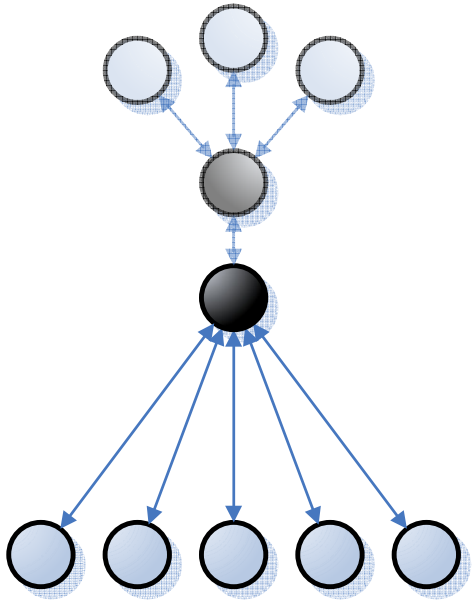
Final

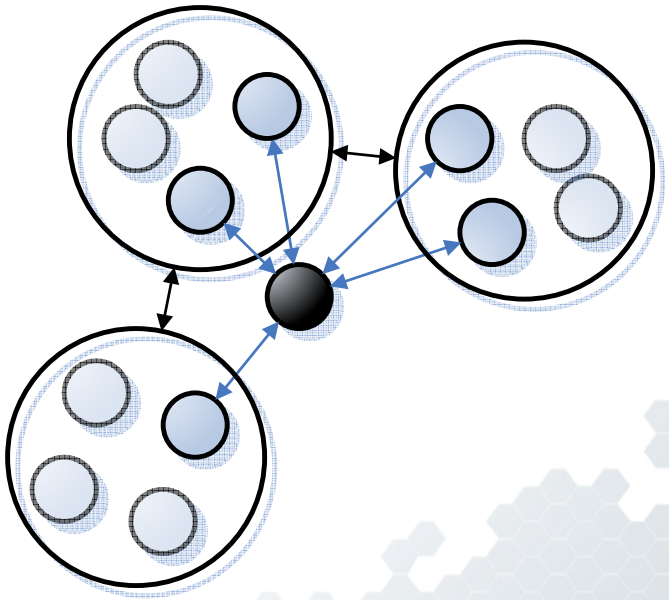
Crysis

- Reaching the end of the tunnel

Where is my department?

- Reconstructed level design team
  - Gameplay
  - Art and performance
  - Cinematics





- Gameplay team
  - Mission design
    - Level flow, objectives, challenges
  - Minute to Minute gameplay
    - Nanosuit gameplay, AI passes, vehicle gameplay
  - Lead Level Designer
  - Level designers
  - Game designer
  - Technical designer
  - AI programmer

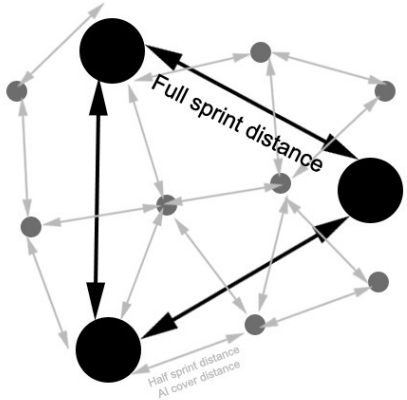
Gameplay - The Nanosuit

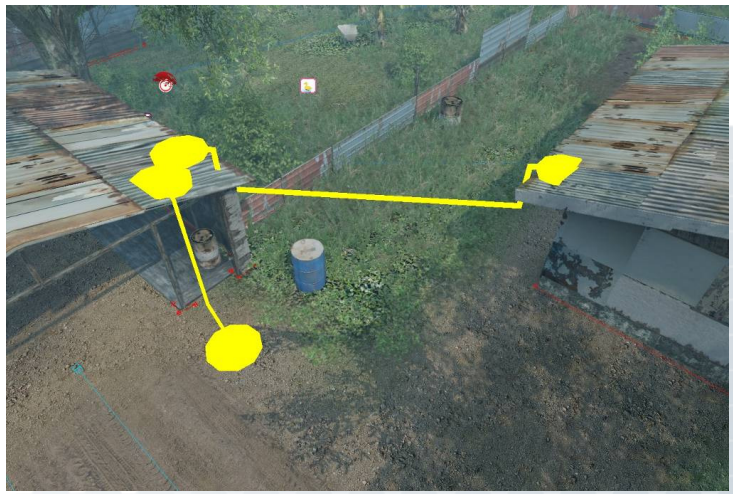
- Extra dimension of choices
- Player-expressed hero
  - Expressing Play style: Act, not react

➔ Feature IP

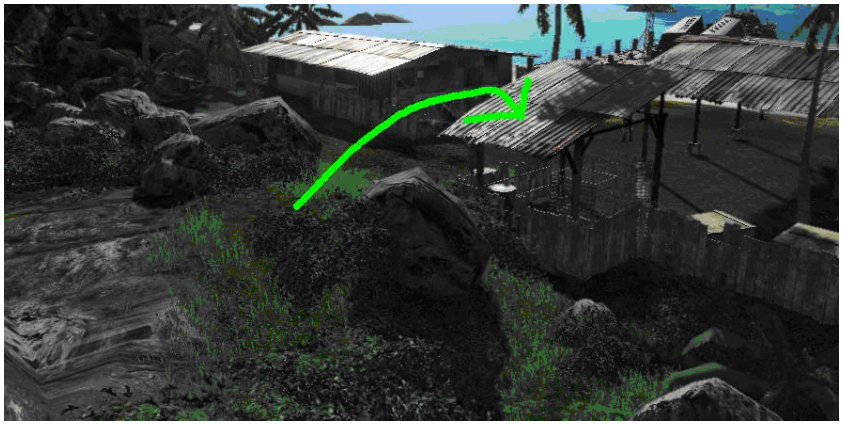
Implement the tools to use a feature

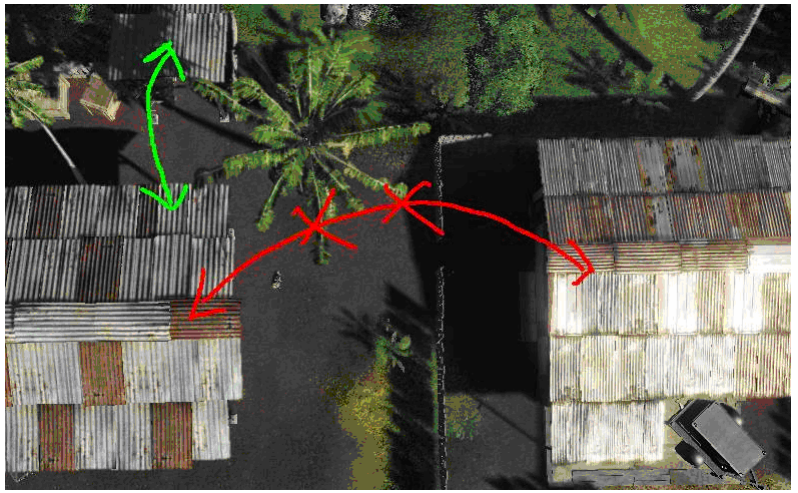
- Not in the original design, underestimated production impact
- Levels have to be changed to prompt feature use
  - Suit helpers

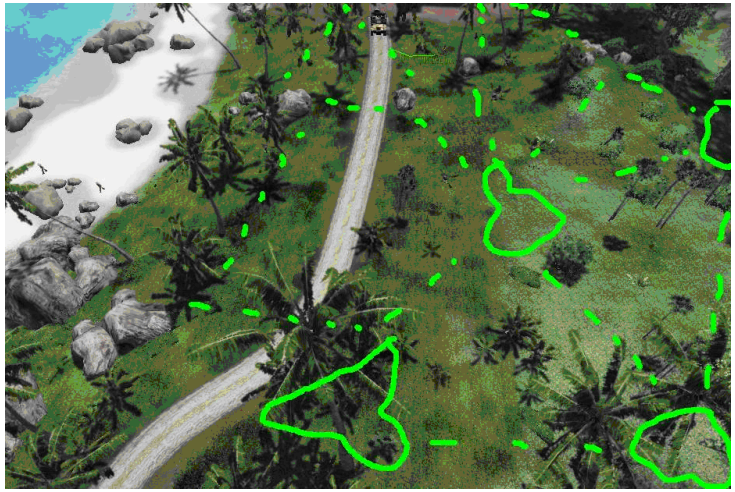


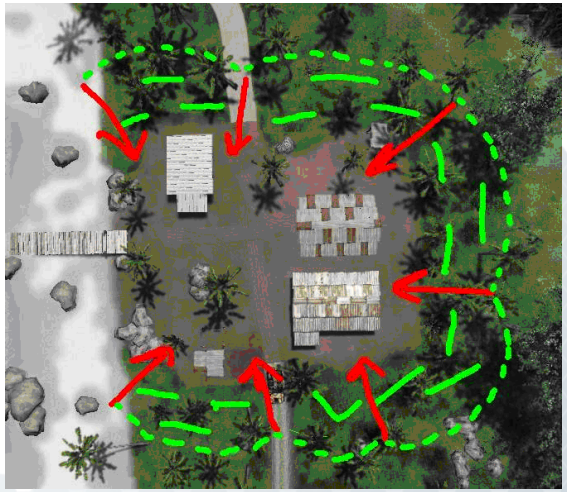


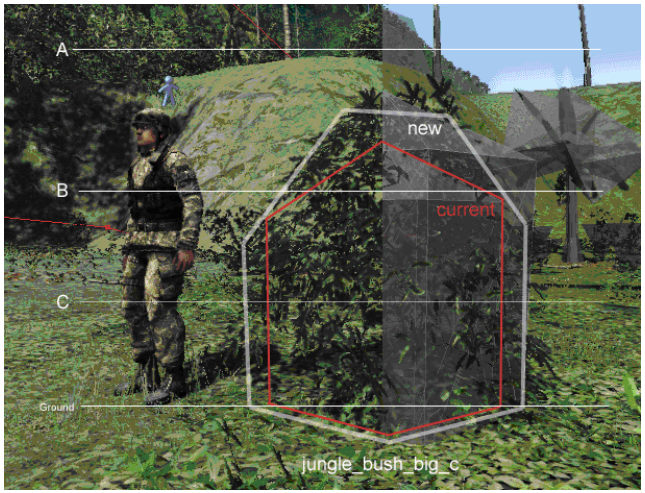
Provoking feature use

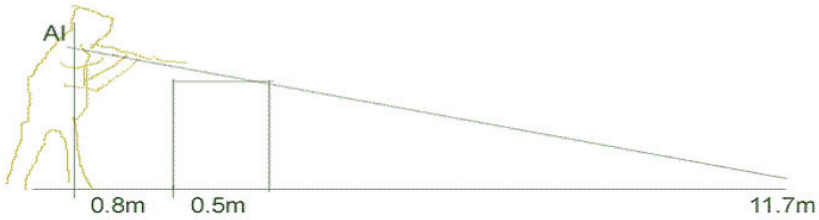




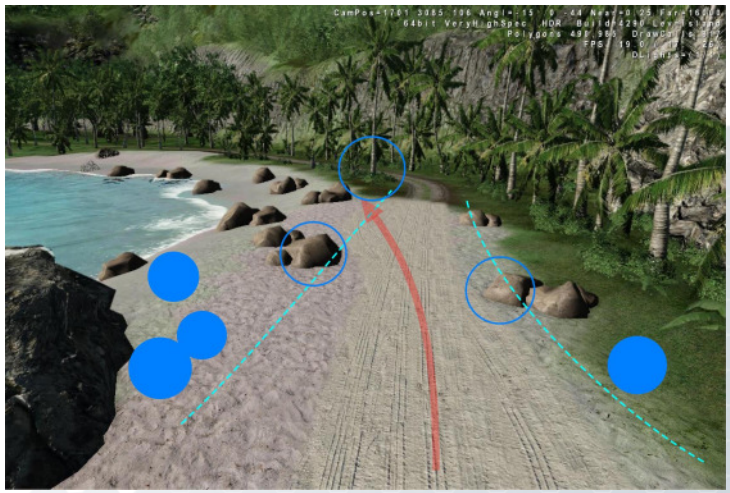








- AI guidelines
- AI pass
- Vehicle pass



Gameplay lessons

- Prototype the core gameplay before starting the 1st pass on the levels
- Prepare guidelines derived from the prototypes
- Discover the specialists in the team and utilize them
- Keep level designer ownership

Visual fidelity vs. technical feasibility

- Art and performance team
  - First iteration – polish and optimization
    - Art director
    - 2-4 Level Designers
    - Technical Designer
    - Special Effects Designer
    - Art support as needed
  - Second iteration – performance
    - Senior Level Designer
    - Level Designers
    - 4 Artists
    - 3 Programmers

Visual fidelity

Lighting and environment

Structures and detail

Terrain and decals

Visual lessons

- Do not start an art pass too early (preferable after 2nd pass)
  - Gameplay first
  - Structures first (1st pass)
  - … prevent resistance to change

Visual lessons

- Define lighting early (sun position) to fit to the direction the level is going to be played
- Define matching colors at the beginning of the texturing pass
  - … otherwise complete terrain repainting might be necessary
  - Due to engine limitation it was not possible to adjust afterwards
- Use realistic reference

Technical feasibility

- Terrain optimization
- Draw call limits
- Physic/expensive objects
- Flow-graph optimization
- Missing or heavy LODs
- Reducing diversity of specific objects
- Checking/fixing/optimizing AI navigation

Technical lessons

- Setup limits and rules
- Artist must follow those rules without exceptions
- Design has to plan carefully
  - Focus on important parts/objects
  - Save memory/budget on unimportant stuff

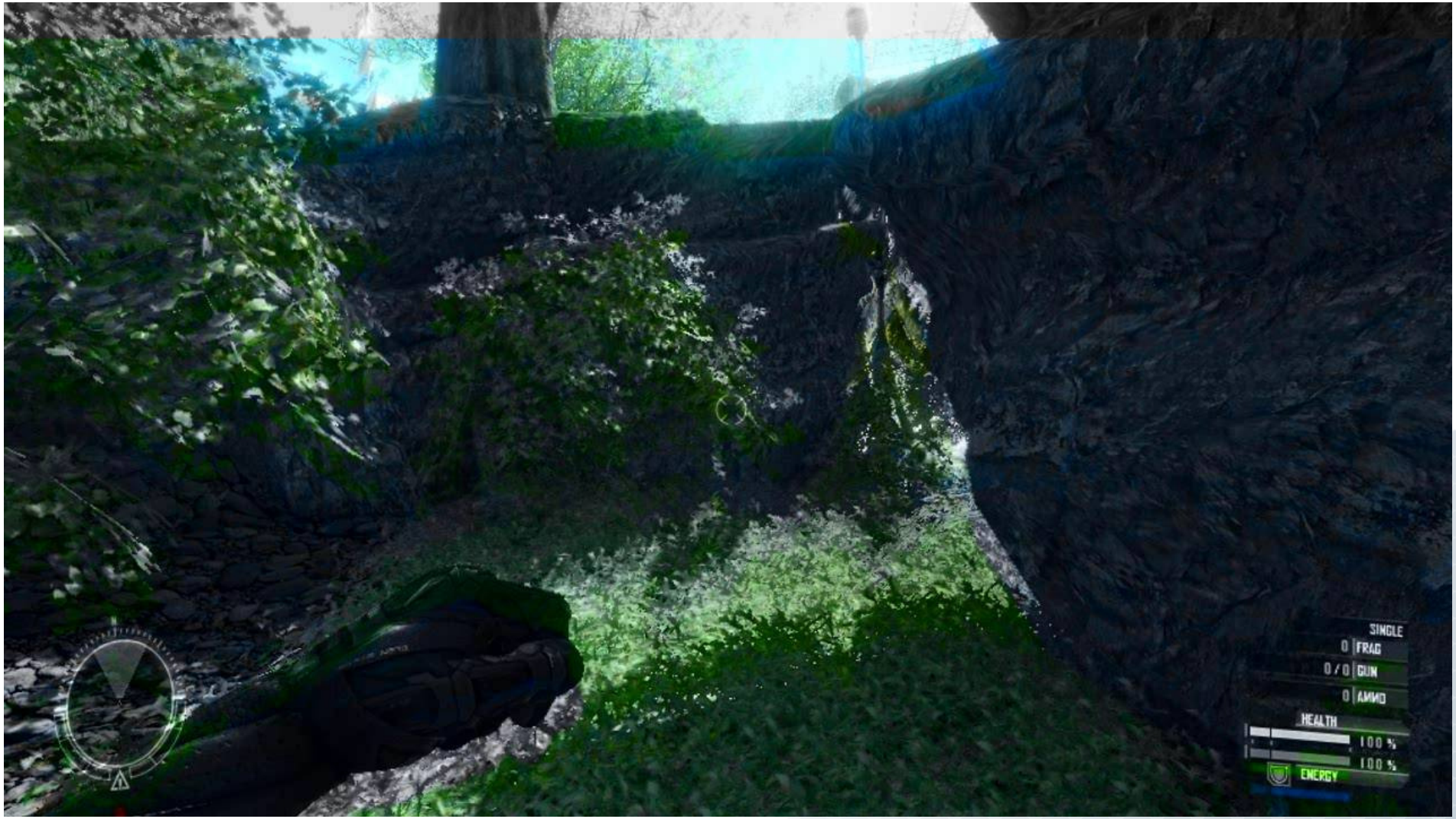
Cinematics

Cinematic team

- Lead animator
- Cinematic designers
- Storyboard artists
- Writer

- Motion Capture Studio
- Internal animations and clean up
- Voice recording
- Sound remix

The mystery boat



Key lessons

- Fail early and iterate faster
- Understand your priorities
- Challenge your favorite ideas
- Derive guidelines from your prototypes
- Use your team smartly